



Chapter 5

Construction and Maintenance

5.1 Introduction

Both public and private construction may require use of the street right-of-way for activities such as utility installation, roadway work, and project staging. Access through construction zones and to residences, public properties and businesses during construction must also be accommodated.

This chapter includes information or links to other resources that must be considered when doing construction or maintenance work in the street right-of-way including:

- Traffic control plans;
- Construction coordination;
- Pre-construction activities;
- Inspections and construction activities;
- Maintenance and repair of property frontage, including sidewalks, street trees, landscaping and utilities;
- Acceptable, restoration of street and sidewalk pavement openings;
- Temporary erosion and sediment control; and
- Safe work sites.

In many cases, construction and maintenance in the street right-of-way will require one or more permits, especially if a street or street right-of-way closure is proposed. The City of Seattle issues permits for the construction of improvements in the street right-of-way and inspects new improvements, including roadway and utility work and the installation of street trees and landscaping. The City also works proactively to coordinate utility work within the street right-of-way to make the most efficient use of resources and minimize the impacts to the traveling public.

5.2 Traffic Control Plans for In Street Work

SDOT requires a traffic control plan be submitted with a Street Right-of-Way Improvement Permit application when:

- The project will involve a complete arterial street closure or a detour; or
- Moving traffic lanes will be closed during peak hours (6:00-9:00 A.M. and 3:00-7:00 P.M. in the Central Business District, and 7:00-9:00 A.M. and 4:00-6:00 P.M. elsewhere); or
- Traffic control cannot be made to match exactly sketches within the [City of Seattle Traffic Control Manual for In Street Work](#) (Traffic Control Manual); or
- Other special circumstances exist as determined by the City Traffic Engineer.

The [Traffic Control Manual for In Street Work](#) defines the basic principles and standards to be observed by all those who perform work within a street right-of-way so that:

- Work areas are safe and effective;
- Vehicular and pedestrian traffic is warned, controlled and protected; and

- All traffic is expedited through the work zone to the extent possible.

Consistent with the standards defined in the [Federal Highways Administration's Manual of Uniform Traffic Control Devices \(MUTCD\)](#), the Traffic Control Manual defines the following:

- required components of a traffic control plan;
- the circumstances under which a traffic control plan is required as a permit condition for work that takes place in or adjacent to the street right-of-way;
- the appropriate type and location of traffic control devices;
- procedures for obtaining permission to work in the street right-of-way;
- requirements for pedestrian access, control and protection;
- detours and street closures;
- emergency work;
- constraints on time of construction to accommodate time of day traffic volumes; and
- standard barricades and signing illustrations.

The Traffic Control Manual is produced and maintained by SDOT's Traffic Management Division. Refer to the [Traffic Control Manual website](#) for more information.

5.3 Coordination Activities

Construction and maintenance activities in the street right-of-way typically require coordination with many agencies, including federal, state and local authorities. Coordination with some agencies may require the project applicant to provide advance notification so that any necessary reviews and approvals are in place prior to City permits being issued.

In 2003, the Seattle Department of Transportation (SDOT) launched the [Right-of-Way Management \(ROWM\) Initiative](#). This initiative was designed to better manage the competing needs of those who need to work in the street right-of-way, and those who need to travel through the street right-of-way.

The Utility Coordination Improvement (UCI) project is part of the ROWM Initiative. The project is focused on improving the coordination of street and utility work in the street right-of-way. The [Planning, Analysis, Coordination Tool \(PACT\) database](#) and its accompanying map tools were developed to augment these coordination efforts. The PACT system tracks projects and coordination efforts. Information on project locations, coordination groups and moratoriums is available and updated twice yearly in April and July.

Additional information on notifications relative to contractor activities can be found in [Seattle Standard Specification 1-07.28 Notifications Relative To Contractor's Activities](#).

5.4 Pre-Construction Activities

In the interest of public safety and convenience, a Street Use Permit may contain certain conditions that are specific to the location where the work is being performed. These may include constraints on the time of day that work can be done in consideration of traffic patterns in the area and the specific nature of the construction proposed.

Prior to construction, a City inspector will perform a pre-condition site visit to evaluate the site. Seattle Department of Transportation (SDOT) requires a schedule of contractor and subcontractor work activities to be completed on all construction projects that impact the street right-of-way. The schedule needs to include the following information:

1. A description of the work to be done and by whom;
2. Exact location of work within the street right-of-way;

3. The start and anticipated end date of all work to be completed;
4. The anticipated sequencing of the installation of facilities;
5. If work is to be performed at more than one work location or across more than one intersection, complete items 1, 2, 3 and 4 for each location and/or intersection; and
6. A restoration schedule.

Any changes, updates or revisions to the contractor or subcontractor schedules need to be submitted to [SDOT's Street Use Division](#).

A pre-construction meeting will be held either at the project site or at SDOT offices, depending on the size and scope of the project, to review the contractor or subcontractor schedules and confirm other construction-relation information.

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5.5 Inspection and Testing Procedures

[5.5.1 Demolition and Grading During Construction](#)

[5.5.2 Shoring, Excavation, and Safety Systems During Construction and Inspection](#)

[5.5.3 Protection of Trees and Other Vegetation During Construction](#)

[5.5.4 Acceptance/Warranty Procedures and Record Drawings](#)

All contractor permits issued by the City are subject to inspection. City of Seattle inspectors are responsible for enforcing various ordinances and Director's Rules, City Standard Plans and Specifications, Street and Sidewalk Pavement Opening Policy, and the Traffic Control Manual procedures.

Inspections help the City ensure that all construction, public safety and convenience, and permit

requirements are met as approved. Get more specific information about inspections, [names and contact information for inspectors](#), as well as guidance for testing procedures.

Additional special inspectors (such as Geotechnical Engineers, Structural inspectors, Seattle Department of Transportation's (SDOT) Urban Forestry Division or material testing) may be required to be available during construction to provide reports and recommendations to the contractor and Street Use Inspectors.

5.5.1 Demolition and Grading During Construction

One of the first activities that occurs during construction is grubbing (removing material from the project site such as soil, pavement or vegetation) and grading (changing the surface of the ground. Typically, two things are needed before demolition, moving soil or grading:

1. Installation and approval of [erosion and sediment control](#) measures including protection measures for trees and other vegetation to be retained; and
2. Providing a survey to establish the designed elevations of the sub grade or surface of the improvement.

Excavating and placing soils may require soils to be transported to an acceptable disposal site and/or importing soils from an approved source.

Any work in the street right-of-way must be executed to minimize impacts to existing trees unless otherwise permitted in advance (refer to [Section 5.5.3 Protection of Trees and Other Vegetation During Construction](#)).

Any work within the street right-of-way that would remove, adjust, destroy or otherwise make a Survey Point or Monument no longer visible or readily accessible will be required to obtain a [Department of Natural Resources](#) (DNR) Survey Monument Permit (Permit to Remove or Destroy a Survey Monument). Coordination with SPU Survey unit regarding street monumentation will be required as well. For more information on required datum, refer to the [Seattle Public Utilities Survey website](#) (especially Client Assistance Memo (CAM) 401 Notes 4 and 21).

5.5.2 Shoring, Excavation, and Safety Systems During Construction and Inspection

Shoring is a means of supporting the earth in a trench or vertical cut for building and roadway construction or other underground installation activities. Underground construction may require a ground support system that employs methods other than shoring. There are many types of shoring and ground support techniques for earth reinforcement or support.

Any excavation 3 or more feet deep that is in or adjacent to the street right-of-way, or any excavation that is within a one horizontal to one vertical (1H:1V) descending slope line adjacent to the street right-of-way must have a support system that provides support to adjacent structures, underground installations, surface improvements, and the sides of the excavation. Ground support is required for any underground construction. Excavation as defined in [Ch 19.122 Revised Code of Washington \(RCW\)](#), whether by open cut or trenchless technology method, shall not damage underground installations, surface improvements, or adjacent structures.

Excavations that are classified as a trench are required to have a safety system (refer to the requirements defined in the [Washington State Administrative Code \(WAC\) 296-155 Part N](#). Additional requirements for safety systems apply to underground construction (refer to the requirements defined in [WAC 296-155 Part Q](#).

Properly installed shoring for excavations are critical for maintaining the structural integrity of the adjacent roadway structures and underground utility infrastructure. Shoring review and inspection of

Utility and Street Improvement Permits is done by SDOT through the permitting process. The Department of Planning and Development (DPD) and SDOT have combined shoring review so that there is only one approval granted in order to make the process more convenient for the applicant. For more information, refer to the [Street Use Shoring Review website](#).

The WAC has a number of regulations addressing shoring and excavations that depend on site specific conditions. Refer to the [City of Seattle Standard Specification 7-17.3\(1\)](#) for more specific information on general trench shoring requirements, and [Seattle Standard Specification 7-10.3 \(7\)](#) for trench shoring regarding water mains.

5.5.3 Protection of Trees and Other Vegetation During Construction

Requirements for the proper protection of trees and other vegetation are provided in [4.14.2 Tree Protection and Maintenance](#). Protective measures must be installed and maintained as a component of the project erosion and sediment control plan.

5.5.4 Acceptance/Warranty Procedures and Record Drawings


Once informed by the Applicant that the improvement work is complete, an SDOT Inspector will do a final inspection. If there are no unresolved issues after the final inspection, the project will be accepted as complete. Ad applicable, the SDOT inspector will then notify the DPD Inspector that the Applicant has complied with the Street Improvement requirements as defined in the permit conditions. The DPD Inspector may then issue a Certificate of Occupancy, or a temporary Certificate of Occupancy, whichever is applicable.

A one-year bond period commences from the acceptance date. All surety bonds for street right-of-way improvements are kept for a year to ensure that all improvements remain functionality for that period. After one year, the Inspector returns to the project site to inspect for any apparent workmanship shortcomings that may qualify as safety defects. If the area is safe, then the bond is released and the project considered closed.

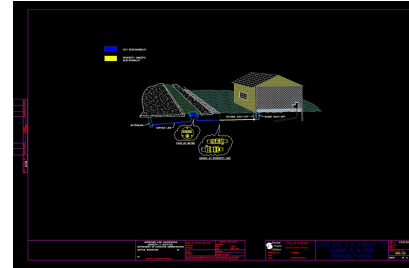
The City of Seattle is responsible for keeping records drawings on file as defined by the [Revised Code of Washington \(RCW\) Chapter 19.122](#). Records of all permanent improvements to the street right-of-way are kept in [SPU's record vault](#). Before issuance of a Street Right-of-Way Improvement Permit, a signed copy of the final plan set is forwarded to the record vault. If any changes are made to the plan during construction, an as-built drawing is prepared and sent to the record vault to be incorporated into the permanent record. The public has access to these permanent records for future improvements and for maintenance activities.

5.6 Maintenance Agreements

There are numerous surface elements in the street right-of-way that require regular or periodic maintenance. Maintenance responsibility for these elements varies. Typically, the City of Seattle is responsible for the area between the curbs. With the exception of trees and other landscape improvements installed by the City of Seattle and/or otherwise recorded in the inventory maintained by the Seattle Department of Transportation's (SDOT) Urban Forestry Division, the adjacent property owner is responsible for the area between the curb and property line, including the sidewalk.

The City maintains public utilities that have been installed to serve the general public. The property owner is responsible for maintenance of service lines to their properties. Get more information on [Side Sewers](#). Property owners are also responsible for the portion of their water service that extends from the union generally located at their property line to the shutoff valve of their residence or business. The City is responsible for the portion of the water service that extends from the union to the water main, including the meter and service line. Refer to [Figure 5-1: Water Service Responsibility Diagram](#) [ 565 kb], which illustrates City and property owner responsibilities regarding water service.

If a property owner or project applicant desires a unique feature be installed as part of their project (e.g., special paving materials, street furniture, or unique landscaping). SDOT may require a maintenance agreement and a hold harmless agreement. The purpose of these agreements is to clarify that the maintenance responsibilities for certain elements of the street right-of-way lie with the private property owner. In some cases, a bond may be required to deal with removal of a unique structure in the future if necessary. Approved maintenance agreements become part of the property deed that is recorded with the King County Assessor's Office.



[Enlarged Version](#) of Figure 5-1:
Water Service Responsibility

5.7 Street and Sidewalk Pavement Opening Restoration Rules

The Pavement Opening and Restoration Rule (PORR) describes the requirements that applicants, contractors, and city crews shall meet when making or restoring openings within the street right-of-way. Refer to a full copy of [the Rule](#). An update of the rule is anticipated in 2005.

5.8 Temporary Erosion Control, Sediment Control, and Spill Control (Best Management Practices)

The primary focus of construction stormwater planning is to prevent sediment and other pollutants associated with construction activity from impacting soil, air, and water quality. Such impacts can increase project costs through regulatory and legal fines, and through repair of site damage that causes delays to project delivery.

Temporary erosion and sediment control (TESC) and spill prevention control and countermeasures (SPCC) plans are required to adequately and systematically identify and minimize project risk. Together, the TESC and SPCC plans satisfy the construction stormwater pollution prevention requirements for all projects that require stormwater site plans. All projects that disturb soil must comply with the TESC elements, and apply appropriate best management practices (BMPs).

The City of Seattle has adopted a set of BMPs for TESC. The Seattle Municipal Code 22.800-22.808 fully defines these BMPs, as does Department of Planning and Development (DPD) Director's Rule 16-00: [Volume 2: Construction Stormwater Control Technical Requirements Manual](#). In addition to these documents, refer to Standard Specification 1-07-15: Temporary Water Pollution and Sediment Control, with emphasis on [Sections 1-05.3\(3\), 1-07.16\(2\) and 8-01](#).

Additional resources for standard details include Standard Plans for tree protection 132, 133, and 134, as well as DPD standard plans under the [Building Permit Forms](#) section.

5.9 Creating a Safe, Accessible Work Site

The street right-of-way accommodates a variety of uses. The Seattle Department of Transportation (SDOT) reviews Traffic Control plans (refer to [Section 5.1 Traffic Control Plans](#)) to assure that safe passage of pedestrians, bicycles and vehicles are accommodated within the street right-of-way at all times, including adjacent to sites where construction or maintenance activities are occurring. SDOT also reviews plans for tree protection. Other entities, including regulatory entities, may have additional requirements for safe and accessible work sites. The project applicant shall become familiar with working clearances and other safety requirements as applicable. Some of these issues include (but are not limited to) the following.

5.9.1 City of Seattle Standard Plans and Specifications

In general, Seattle's Standard Specifications contain baseline requirements addressing Safety Rules and Standards, Protection and Restoration of Property, Public Convenience and Safety, Notifications

Required of Contractor Activities, Temporary Traffic Control ([Standard Specifications 1-07.1\(2\), 1-07.16, 1-07.23, 1-07.28, and 1-10](#)), and other General Requirements that may apply to a specific construction. These Standard Specifications may be amended by permit, by the Seattle City Council, or other legal authority for a site or project specific application.

[Chapter 49.17 RCW](#) Washington Industrial Safety and Health Act addresses the responsibilities of the employer to ensure safe working conditions. [Title 296 WAC](#) addresses the responsibilities of the Washington State Department of Labor and Industries as it relates to safe working conditions. [Chapter 296-155 Washington Administrative Code \(WAC\)](#) addresses most, but not all, construction safety elements typical of construction in the street right-of-way.

It is the responsibility of the contractor to ensure the safety of all persons and the protection of all property.

5.9.2 King County/Metro Transit Clearances

For more information about King County/Metro Transit Clearances, refer to [Section 5.1 Traffic Control Plan](#). Additionally, [Standard Specification 1-07.28 Item 2](#) and [Standard Specification 1-07.28 Items 6 and 10](#) may also apply.

5.10 Contact Information

Organization Name/Website	Phone
Seattle Department of Transportation (SDOT) General Information	(206) 684-5111
SDOT Shoring Review Section	
SDOT Street Use Division	(206) 684-5283
SDOT Street Utility Coordination	(206)684-5280
SDOT Traffic Management Division	(206) 684-5111
Seattle Public Utilities (SPU) General Information	
SPU Land Survey Services	

Additional contact information and resources are located in the [City of Seattle Staff Directory](#), which is searchable by Department, Division and individual staff.